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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/631,370

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Stuart S. Kreitzer

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EXAMINER

PALIWAL, YOGESH

ART UNIT

PAPER NUMBER

2135

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/631,370	Applicant(s) KREITZER, STUART S.	
	Examiner YOGESH PALIWAL	Art Unit 2135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9-12 and 14-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-12 and 14-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the Pre-Appeal Brief filed on March 28, 2008. Claims 1-7, 9-12, and 14-21 are pending in the application.

Response to Arguments

2. A pre-appeal conference has been held and fully considered applicants' remarks in the Pre-Appeal Brief. The Conferees agreed with the applicants on the argument on the pages 4-5. However, a newly found prior art has brought the pending claims 1-7, 9-12, and 14-21 to the rejection below. Examiner provides a new ground of rejection below for claims 1-7, 9-12 and 14-21.

Reopening of Prosecution – In view of new grounds of Rejection after Pre-Appeal filed on March 28, 2008, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below. To avoid abandonment of the application, appellant must exercise one of the following two options: (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or, (2) request reinstatement of the appeal. If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Docketing

3. Please note that the application has been re-docketed to different examiner.

Please refer all future communications regarding this application to the examiner of record using the information supplied in the final section of the office action.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 5, 6, 9, 14, 17 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Wellig et al. (US 6,580,704 B1), hereinafter "Wellig".

Regarding **Claims 1 and 14**, Wellig discloses a method and a portable communication device capable of operating in multiple modes, comprising:

establishing a symmetric traffic key between the multi-mode portable communication device (see, Fig. 1, Numeral 12) and a second multi-mode portable communication device (Fig. 1, Numeral 13) in a first mode of communication in a first

communication network that supports a first communication protocol (see Fig. 1, Non-Direct Mode communication that includes AP for communication and also see, Column 12, 59-63);

switching to at least a second mode of communication in a different communication network that supports a different communication protocol (see, Fig. 1, "Direct Mode"); and

following the switch, sharing the symmetric traffic key between the multi-mode portable communication device and the second multi-mode portable communication device (see, Column 12, lines 59-63);

wherein the multi-mode device and the second multi-mode device communicate with one another using the first communication protocol over the first communication network (Fig. 1, Non-Direct mode) and using the different communication protocol over the different communication network (Fig. 1, Direct Mode).

Regarding **Claims 5 and 17**, the rejection of claims 1 and 14 is incorporated and Wellig further discloses wherein the step of switching to the second mode from the first mode comprises switching among modes comprising interconnect voice, dispatch voice, peer-to-peer data, and peer-to-peer voice (see, Fig. 1, Direct mode is interpreted as a peer-to-peer mode).

Regarding **Claim 6**, the rejection of claim 1 incorporated and Wellig further discloses wherein the step of switching to the second mode from the first mode comprises switching among communication protocols comprising CDMA, TDMA, GSM, and WLAN (see, Column 7, lines 2-4).

Regarding **Claims 9 and 19**, the rejection of claims 1 and 14 is incorporated and Wellig further discloses wherein the step of establishing a new communication session between the multi-mode portable communication device and the second portable communication device without requiring an APK key establishment process (see, Column 12, lines 59-63, MTs uses encryption key is negotiated during a Non-Direct mode and during direct mode, communication between 2 MTs is encrypted using that key).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wellig in view of Schneier (Schneier, Applied Cryptography, Wiley, 2nd Edition, Page 48), hereinafter, "Schneier".

Regarding **Claims 2 and 15**, Although Wellig discloses negotiating encryption to be used in direct mode, during non-direct mode; Wellig does not expressly disclose a system that uses Automatic Public Key Exchange techniques.

Schneier teaches using the public key exchange system using private keys along with a public key of a peer unit before commencing secure communications (page 48).

At the time the invention was made, it would have been obvious to a person of

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ordinary skill in the art to use the public and private keys to perform the key exchange as in Schneier in the system of Wellig. One of ordinary skill in the art would have been motivated to do this because it would make key-exchange easier.

Regarding **Claim 3**, Although Wellig discloses negotiating encryption to be used in direct mode, during non-direct mode; Wellig does not expressly disclose a system that uses Automatic Public Key Exchange is implemented using public-key algorithms such as Diffie-Hellman cryptography or Elliptic Curve Cryptography.

Schneier discloses a system that uses public-key algorithms for Public Key Exchange techniques (page 48 paragraph 2).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the public and private keys to perform the key exchange as in Schneier in the system of Wellig. One of ordinary skill in the art would have been motivated to do this because it would make key-exchange easier.

Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wellig in view of Whelan et al (6,965,674 B2), hereinafter, "Whelan".

*Regarding **Claims 7 and 18**, the rejection of claims 1 and 14 is incorporated and Wellig does not disclose the step of storing the symmetric traffic key in a phonebook record associated with the second portable communication device or the traffic key is stored in a recent call list that reflects recent communication between the portable communication device and a second portable communication device.*

Whelan discloses a system wherein the traffic key is stored in a recent call list

that reflects recent communication between the portable communication device and a second portable communication device (column 5 lines 30-33; column 10 lines 19-42; Fig. 4)

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to store the traffic key in a recent call list as in the system of Whelan in the system of Wellig. One of ordinary skill in the art would have been motivated to do this because it would make it impractical for a hacker to gather sufficient network traffic using any one WEP key to decrypt that key (Whelan column 7 lines 54-65).

Claims 10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wellig in view of Suzuki (5,390,252), hereinafter, "Suzuki".

Regarding **Claims 10 and 20**, the rejection of claim 1 is incorporated and Wellig discloses establishing encryption key during the first mode of communication. However, Wellig does not explicitly discloses establishing a symmetric traffic key between a first multi-mode portable communication device and the predetermined number of other multi-mode portable communication devices during an idle mode of the first multi-mode portable communication device.

Suzuki discloses establishing a symmetric traffic key between a first portable communication device and the predetermined number of other portable communication devices during an idle mode of the first portable communication device (column 5 line 60 to column 6 line 12, Note: the idle mode corresponds to the mode 1 because at this

mode no information is being transferred, but the system is ready therefore making this an idle mode).

Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to, establish encryption key between the first multi mode portable communication device and the second portable communication device in the system of Wellig, during an idle mode of the first multi-mode portable communication device as taught by Suzuki so that encryption key can be ready prior to start of the non-direct mode of Wellig which would then reduce the time of the first mode (non-Direct mode) of Wellig's system thus improving overall performance of the system).

Claims 4 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wellig in view of Schneier and further in view of the article by L-3 Communications, hereinafter "L-3".

Regarding **Claims 4 and 16**, Although Wellig discloses negotiating encryption to be used in direct mode, during non-direct mode; Wellig does not expressly disclose a system wherein the Automatic Public Key exchange is implemented by combining public-key algorithms with a signaling scheme such as Future Narrow Band Digital Terminal protocol.

L-3 discloses a terminal that implements the Future Narrow Digital standard and therefore protocol. The protocol includes key management and therefore key exchange (page 1).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the future narrow band with digital terminal protocol as disclosed by L-3 in the combined system of Wellig and Schneier. One of ordinary skill in the art would have been motivated to do this because Future Narrow Band Digital Terminal Protocol does not tie one down to a specific network, but instead assures operation over a variety of narrow band wide band (L-3 page 1).

Claims 11 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wellig in view of Suzuki and further in view of Schneier.

Regarding **Claims 11 and 21**, Wellig et al. (US 6,580,704 B1) discloses a method and system of establishing secure communications among a plurality of portable communication devices, comprising the steps of:

storing information associated with a predetermined number of other portable communication devices (see, Fig. 2);

establishing a secure communication session in a first mode of communication in a first communication network that supports a first communication protocol between the first multi-mode portable communication and at least one among the predetermined number of other multi-mode portable communication devices (see Fig. 1, MT1 and MT2 in the mode of connection are connected to each other using access point)

switching to at least a second mode of communication in a second communication network that is different from the first communication network and that supports a second communication protocol that is different from the first communication

protocol (see, Fig. 1, "Direct Mode"); and

following the switch, sharing the same symmetric traffic key between the first multi-mode portable communication device and the at least one among the predetermined number of other multi-mode portable communication devices in the second type of communication;

wherein the first multi-mode device and the other multi-mode device communicate with one another using the first communication protocol over the first communication network and using the second communication protocol over the second communication network.

Wellig discloses establishing encryption key during the first mode of communication. However, Wellig does not explicitly disclose establishing a symmetric traffic key between a first multi-mode portable communication device and the predetermined number of other multi-mode portable communication devices during an idle mode of the first multi-mode portable communication device.

Suzuki discloses establishing a symmetric traffic key between a first portable communication device and the predetermined number of other portable communication devices during an idle mode of the first portable communication device (column 5 line 60 to column 6 line 12, Note: the idle mode corresponds to the mode 1 because at this mode no information is being transferred, but the system is ready therefore making this an idle mode).

Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to, establish encryption key between the first multi

mode portable communication device and the second portable communication device in the system of Wellig, during an idle mode of the first multi-mode portable communication device as taught by Suzuki so that encryption key can be ready prior to start of the non-direct mode of Wellig which would then reduce the time of the first mode (non-Direct mode) of Wellig's system thus improving overall performance of the system).

Although Wellig and Suzuki discloses encryption key establishment step, they do not explicitly disclose that encryption key is established using an APK key establishment process.

Schneier discloses a system that uses public-key algorithms for Public Key Exchange techniques (page 48 paragraph 2).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the public and private keys to perform the key exchange as in Schneier in the system of Suzuki. One of ordinary skill in the art would have been motivated to do this because it would make key-exchange easier.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wellig in view of Suzuki and Schneier and further in view of Howard, Jr. et al. (US 6,212,280 B1), hereinafter "Howard".

Regarding **Claim 12**, the rejection of claim 11 is incorporated and the combination of Wellig, Suzuki and Schneier as applied in the rejection of claim 11 does not explicitly discloses a system wherein the step of establishing a symmetric traffic key comprises contacting the predetermined number of other portable communication

devices to determine if their respective keys have expired and performing a background exchange to re-establish a fresh key if the respective key has expired.

However, Howard discloses a system wherein the step of establishing a symmetric traffic key comprises contacting the predetermined number of other portable communication devices to determine if their respective keys have expired and performing a background exchange to re-establish a fresh key if the respective key has expired (see, Column 21, line 58 through Column 22 line 2).

Therefore, it would have been obvious at the time invention was made to a person of ordinary skill in the art to re-establish keys, in the combined system of Wellig, Suzuki and Schneier, when the traffic keys expires as taught by Howard so that clients can always have the latest key available to establish secure connections.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOGESH PALIWAL whose telephone number is (571)270-1807. The examiner can normally be reached on M-F: 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Y. P./

Examiner, Art Unit 2135

/KimYen Vu/

Supervisory Patent Examiner, Art Unit 2135